

What Is Claimed Is:

1. A starter/generator system for an engine, comprising:  
a starter/generator including an exciter generator with a DC winding; and  
5 a controller, for providing AC power to said exciter generator during a start mode of operation and DC power to said exciter generator during a generate mode of operation.
2. The system of claim 1, wherein said controller provides the AC power during said start mode with a predetermined magnitude and  
10 frequency to energize an exciter stator in said starter/generator, and provides the DC power during said generate mode with a predetermined voltage level to produce a regulated voltage level output from said starter/generator.
3. The system of claim 2, wherein said regulated output voltage is  
15 applied at a predetermined portion of an AC bus.
4. The system of claim 1, wherein said starter/generator starts and maintain operation of an aircraft engine.
5. The system of claim 1, wherein said starter/generator is synchronous and brushless.
- 20 6. The system of claim 1, further comprising a start converter for starting an engine in combination with said starter/generator.
7. A controller for a starter/generator, comprising:  
a logic circuit for receiving input signals and generating output signals based on said input signals;  
25 a switching circuit for providing AC power to an exciter stator of a starter/generator system during a start mode of operation and DC power to said exciter stator during a generate mode of operation based on said

output signals.

8. The controller of claim 7, wherein said input signals include signals relating to a regulated voltage level being applied to a particular line portion of said starter/generator system.

5           9. The controller of claim 7, wherein said input signals include signals relating to the current level being applied to a predetermined portion of an AC bus.

10           10. The controller of claim 7, wherein said input signals include signals selectively enabling the start mode or generate mode of operation.

11           11. The controller of claim 7, wherein said switching circuit includes a full bridge arrangement of electronic switches for providing said AC and DC power to said exciter stator.

12. The controller of claim 7, wherein said full bridge arrangement includes at least four switches.

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